

# METHOD OF TRACKING AND USING PLAYER ERROR DURING THE PLAY OF A CASINO GAME

## Cross-Reference to Related Application

This application is a Continuation-in-Part of Application Serial No. 09/532,388, filed March 22, 2000, entitled "Method of Tracking and Using Player Error During the Play of a Casino Game", now <sup>US Patent 6343989</sup> pending.

This invention relates to casino games, and more particularly to a method of tracking errors made by a player during the play of the game. The errors can be quantified and used by the gaming establishment in a variety of ways including directly or indirectly returning all or a portion of the accumulated monetary value of the errors to the player.

## Background of the Invention

Casino games come in a variety of embodiments. There are the wager and spin games, such as reel or video slot machines, in which no player decision is required to effect the outcome of the game. The player simply makes a wager, pulls the handle or presses the SPIN button on the slot machine and the outcome is displayed to the player. The player has no control

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1 or input into the outcome of the game and the player wins or  
2 loses simply on the basis of a random event. The player  
3 cannot make a mistake or error that will affect the outcome of  
4 a game such as a slot machine.

5 There are other casino games in which the player has a  
6 modest input in the result of the game. In games such as  
7 Roulette or Keno, the player makes a wager and then selects  
8 one or more numbers that the player hopes will occur during  
9 the play of the game. The winning number or numbers are then  
10 randomly selected and winning and losing events are deter-  
11 mined. While the player does have input at the beginning of  
12 each round of play, the outcome of the game is independent of  
13 any action or decision making by the player.

14 However, there are many casino games in which decision  
15 making by the player does affect the outcome of the game.  
16 Typical of these types of games is video draw poker. A player  
17 makes a wager to be eligible to play the game. After an  
18 initial deal of five cards is displayed to the player on a  
19 video display screen, the player is allowed to discard and  
20 replace unwanted cards with replacement cards. The player  
21 attempts to achieve the highest possible poker hand from the  
22 starting five cards. Video poker games use poker hand  
23 rankings to determine winning combinations and a payout  
24 schedule is used to determine the amount awarded to the player

1 for achieving a winning combination.

2        Players often make mistakes in analyzing the starting  
3 five cards and determining which cards to hold and which cards  
4 to discard. Players also make mistakes by pressing the wrong  
5 buttons or by playing too fast and not recognizing which cards  
6 the player actually has as starting cards.

7        Casino games such as video draw poker offer the player a  
8 pay table that is based on the mathematical probabilities of  
9 the game being played. If the player were to play the game  
10 without making any strategy mistakes or other misplays of each  
11 hand, the gaming machine would return to the player over the  
12 long run the calculated mathematical game return based on the  
13 pay table presented to the player. Misplays of game strategy  
14 and other player errors lower the game return and diminish the  
15 player's chances of possibly having a winning session at the  
16 gaming machine.

17        It is possible to determine mathematically how a player  
18 should play each hand of cards that is presented to the player  
19 so that the player can have the best possible chance of  
20 maximizing the game return of the gaming machine being played.  
21 One well known way of determining player strategy is to  
22 calculate the highest expected value for each starting hand  
23 dealt to the player. The player then plays his hand in  
24 accordance with the strategy that has the highest expected

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1 value for the pay table being offered to the player. Players  
2 who are capable of recognizing the best way to play each  
3 starting hand have the best chance to have a winning session  
4 at the gaming machine.

5 However, most players are not capable of recognizing the  
6 best way to play each and every starting hand that a player is  
7 dealt in a game of video draw poker. Invariably, players will  
8 commit errors in playing each hand and the gaming establish-  
9 ment presently simply benefits from the errors made by the  
10 player in that the actual game return of the gaming machine is  
11 higher than the theoretical game return of the gaming machine  
12 had the player not made errors during the play of the game.

13 It is an object of the present invention to provide a  
14 method of determining the errors made by a player during the  
15 play of a casino game, calculating the affect of those errors  
16 on the game return and returning those errors in whole or in  
17 part to the player either directly or indirectly.

18 It is a feature of the present invention to analyze each  
19 starting hand of a game of chance played on a gaming machine  
20 and determine the highest expected value of the starting hand.  
21 The expected value of the starting hand as then played by the  
22 player is also determined and compared to the highest expected  
23 value of the starting hand. The difference, if any, is the  
24 error made by the player. The monetary value of the differ-

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1   ence is accrued and returned in whole or in part to the  
2   player, either directly or indirectly.

3           It is an advantage of the present invention that the  
4   player has a fairer play of the gaming machine since the  
5   monetary value of any errors or a portion of the monetary  
6   values of any errors committed by the player during the play  
7   of the game are returned to the player. A player would be  
8   less reluctant to play a game of chance that the player was  
9   not totally comfortable with because the monetary value of any  
10   errors or a portion of the monetary value of any errors made  
11   by the player would be returned to the player over the course  
12   of playing the game. The gaming establishment would benefit  
13   from having more players and a higher volume of play.

14           Other objects, features and advantages of the present  
15   invention will become apparent from a consideration of the  
16   following detailed description.

17

18

### **Summary of the Invention**

19           A player makes a wager and a starting five card video  
20   poker hand is displayed to the player. The computer controls  
21   of the gaming machine calculate the highest expected value  
22   (highest TEV<sub>i</sub>) for the five card hand displayed. The player  
23   selects which cards, if any, the player wishes to hold. The

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1 computer controls then calculate the expected value of the  
2 hand as played by the player (player  $TEV_i$ ). The difference  
3 between the highest  $TEV_i$  and the player  $TEV_i$  is also calculated  
4 ( $highest\ TEV_i - player\ TEV_i$ ). This difference is multiplied by  
5 the amount of the player's wager and the resultant amount is  
6 the error made by the player. The error is accumulated over  
7 one or more rounds of play and the accumulated error amount in  
8 whole or in part may be returned to the player in a variety of  
9 ways, either directly or indirectly.

10

11

### **Brief Description of the Drawings**

12 Figure 1 shows a flow chart of the method of the present  
13 invention.

14

15

### **Detailed Description of the Preferred Embodiments**

16 The method of the present invention involves calculating  
17 player error that occurs during a game of chance, accruing the  
18 player error and returning the player error or a portion of  
19 the player error to the player in any of a variety of ways.

20 In any game of chance in which the player is required to  
21 make a decision on how to play the game, the possibility of  
22 player error exists. Typical of games of chance in which  
23 player error can occur are the various iterations of draw

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1 poker. In each of these games, it is possible to calculate  
2 mathematically the optimal manner of playing the initially  
3 dealt cards to achieve the highest expected value. It is also  
4 possible to calculate mathematically the expected value of how  
5 the player actually plays the initially dealt cards. Any  
6 difference between the optimal manner of play and the way the  
7 player plays the initially dealt cards is the player error.  
8 The monetary value of the player error based on the amount  
9 wagered by the player can be accrued and the accumulated  
10 monetary value of the player error in whole or in part can be  
11 returned to the player in any of a variety of ways.

12 Figure 1 shows a flow chart of the steps of the method of  
13 the present invention.

14 In draw poker, the player makes a wager to play the game.

15 When draw poker is played on an electronic gaming machine, an  
16 initial five card video poker hand is displayed to the player.  
17 This hand is randomly selected from the fifty-two cards that  
18 comprise a standard deck of playing cards. The player may  
19 hold or discard each, any or all of these initial five cards.  
20 Mathematically, there are thirty two possible ways ( $2^5 = 32$ )  
21 for a player to play this initial five card hand. Thus, the  
22 number of possible discard strategies (i) is thirty-two.

23 The computer controls of the gaming machine are pro-  
24 grammed to calculate the highest expected value (highest TEV<sub>i</sub>)

1 for the initial five card hand displayed. This is done by  
2 analyzing all thirty-two possible discard strategies and  
3 calculating the expected value for each of the possible  
4 discard strategies. The expected value for each discard  
5 strategy is calculated using Formula #1:

6

$$TEV_i = \sum_{n=1}^N P_{ni} \times Award_n$$

7

8 where:

9  $TEV_i$  is the Total Expected Value of awards paid for  
10 the  $i^{th}$  discard strategy.

11  $N$  is the winning hand types; this corresponds to  
12 the number of possible distinct winning cate-  
13 gories.

14  $P_{ni}$  is the probability of winning the  $n^{th}$  Award,  
15 given the dealt hand at the  $i^{th}$  discard strat-  
16 egy.

17  $Award_n$  is the Pay for the  $n^{th}$  winning combination.

18

19 As can be seen from Formula #1, the calculation of the  
20 expected value for each possible discard strategy is dependent  
21 on the awards paid to the player for achieving winning hand  
22 combinations. In draw poker, the awards to the player are



1 represented by winning hand combinations displayed to the  
2 player in a pay table.

3 As an example of how these calculations work, assume the  
4 player receives the following initially dealt five card hand:

5 KING♠ KING♦ TEN♥ JACK♥ QUEEN♥

6 Also for this example, assume the player is playing a  
7 draw poker game of the format of Bonus Poker in which the pay  
8 table presented to the player is shown in Table 1:

BONUS POKER	NUMBER OF COINS BET				
POKER HAND	1	2	3	4	5
ROYAL FLUSH	250	500	750	1000	4000
STRAIGHT FLUSH	50	100	150	200	250
FOUR ACES	80	160	240	320	400
FOUR 2'S, 3'S OR 4'S	40	80	120	160	200
FOUR 5'S THRU KINGS	25	50	75	100	125
FULL HOUSE	8	16	24	32	40
FLUSH	5	10	15	20	25
STRAIGHT	4	8	12	16	20
THREE-OF-A-KIND	3	6	9	12	15
TWO PAIR	2	4	6	8	10
JACKS OR BETTER	1	2	3	4	5

9 TABLE 1.

10 Initially, the computer controls analyze all thirty-two

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1 ways that the player may hold and discard cards from this  
2 initial five card hand. Using Formula #1, the following  
3 results are achieved from this analysis:  
4  
5 Discard strategy #1  
6 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
7 Cards held: None  
8 TEV = 0.3008  
9  
10 Discard strategy #2  
11 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
12 Cards held: KING♠  
13 TEV = 0.3316  
14  
15 Discard strategy #3  
16 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
17 Cards held: KING♦  
18 TEV = 0.3316  
19  
20 Discard strategy #4  
21 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
22 Cards held: TEN♥  
23 TEV = 0.2700  
24  
25 Discard strategy #5  
26 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
27 Cards held: JACK♥  
28 TEV = 0.4321  
29  
30 Discard strategy #6  
31 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
32 Cards held: QUEEN♥  
33 TEV = 0.4278  
34  
35 Discard strategy #7  
36 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
37 Cards held: KING♠ KING♦  
38 TEV = 1.5264  
39  
40 Discard strategy #8  
41 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
42 Cards held: KING♠ TEN♥  
43 TEV = 0.2572  
44

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1 Discard strategy #9  
2 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
3 Cards held: KING♠ JACK♥  
4 TEV = 0.3982  
5  
6 Discard strategy #10  
7 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
8 Cards held: KING♠ QUEEN♥  
9 TEV = 0.3982  
10  
11 Discard strategy #11  
12 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
13 Cards held: KING♦ TEN♥  
14 TEV = 0.2572  
15  
16 Discard strategy #12  
17 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
18 Cards held: KING♦ JACK♥  
19 TEV = 0.3982  
20  
21 Discard strategy #13  
22 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
23 Cards held: KING♦ QUEEN♥  
24 TEV = 0.3982  
25  
26 Discard strategy #14  
27 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
28 Cards held: TEN♥ JACK♥  
29 TEV = 0.3959  
30  
31 Discard strategy #15  
32 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
33 Cards held: TEN♥ QUEEN♥  
34 TEV = 0.3776  
35  
36 Discard strategy #16  
37 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
38 Cards held: JACK♥ QUEEN♥  
39 TEV = 0.5115  
40  
41 Discard strategy #17  
42 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
43 Cards held: KING♠ KING♦ TEN♥  
44 TEV = 1.4080  
45

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1 Discard strategy #18  
2 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
3 Cards held: KING♠ KING♦ JACK♥  
4 TEV = 1.4080  
5  
6 Discard strategy #19  
7 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
8 Cards held: KING♠ KING♦ QUEEN♥  
9 TEV = 1.4080  
10  
11 Discard strategy #20  
12 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
13 Cards held: KING♠ TEN♥ JACK♥  
14 TEV = 0.3358  
15  
16 Discard strategy #21  
17 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
18 Cards held: KING♠ TEN♥ QUEEN♥  
19 TEV = 0.3358  
20  
21 Discard strategy #22  
22 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
23 Cards held: KING♠ JACK♥ QUEEN♥  
24 TEV = 0.4413  
25  
26 Discard strategy #23  
27 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
28 Cards held: KING♦ TEN♥ JACK♥  
29 TEV = 0.3358  
30  
31 Discard strategy #24  
32 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
33 Cards held: KING♦ TEN♥ QUEEN♥  
34 TEV = 0.3358  
35  
36 Discard strategy #25  
37 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
38 Cards held: KING♦ JACK♥ QUEEN♥  
39 TEV = 0.4413  
40  
41 Discard strategy #26  
42 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
43 Cards held: TEN♥ JACK♥ QUEEN♥  
44 TEV = 0.9177  
45

1 Discard strategy #27  
 2 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
 3 Cards held: KING♠ KING♦ TEN♥ JACK♥  
 4 TEV = 1.2128  
 5  
 6 Discard strategy #28  
 7 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
 8 Cards held: KING♠ KING♦ TEN♥ QUEEN♥  
 9 TEV = 1.2128  
 10  
 11 Discard strategy #29  
 12 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
 13 Cards held: KING♠ KING♦ JACK♥ QUEEN♥  
 14 TEV = 1.2128  
 15  
 16 Discard strategy #30  
 17 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
 18 Cards held: KING♠ TEN♥ JACK♥ QUEEN♥  
 19 TEV = 0.8511  
 20  
 21 Discard strategy #31  
 22 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
 23 Cards held: KING♦ TEN♥ JACK♥ QUEEN♥  
 24 TEV = 0.8511  
 25  
 26 Discard strategy #32  
 27 Hand dealt: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
 28 Cards held: KING♠ KING♦ TEN♥ JACK♥ QUEEN♥  
 29 TEV = 1.0000  
 30  
 31 The highest TEV for this example starting hand is 1.5264  
 32 when the player uses strategy #7 and holds the KING♠ and  
 33 KING♦.  
 34 The player then selects which cards, if any, the player  
 35 wishes to hold. The computer controls using Formula #1  
 36 calculate the expected value of the hand as played by the  
 37 player (player TEV). The difference between the highest TEV  
 38 and the player TEV is also calculated (highest TEV - player

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1 TEV). This difference is multiplied by the amount of the  
2 player's wager and the resultant amount is the monetary value  
3 of the error made by the player. If the player choose the  
4 best strategy when the player played the initial five card  
5 hand, then the player error would be zero, but players do not  
6 always play each hand using the best strategy.

7 For example, if the player were to use strategy #26 and  
8 hold the TEN♥ JACK♥ QUEEN♥ (hoping perhaps to draw a Royal  
9 Flush), the player's TEV would be 0.9177. The error made by  
10 the player is therefore the highest TEV minus the player's TEV  
11 ( $1.5264 - 0.9177$ ) which equals 0.6087. The monetary value of  
12 the player's error is then the error times the amount of the  
13 player's wager. If the player were playing \$1.00 per hand,  
14 the monetary value of the error on this hand would have been  
15 \$0.6087. If the player were playing dollar video poker and  
16 wagering a maximum bet of \$5.00 per hand, the monetary value  
17 of the error would have been \$3.0435. If the player were  
18 playing 25¢ video poker and wagering a maximum bet of \$1.25  
19 per hand, the monetary value of the error would have been  
20 \$0.7609.

21 The calculation of the player error for any other  
22 strategy for playing the hand would be done the same way. If  
23 the player had chosen strategy #7, then there would be no  
24 player error since strategy #7 is the best mathematical way to

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1 play the example hand.

2 This method of calculating player error can be used for  
3 any form of video poker (with or without wild cards and with  
4 or without one or more Jokers) and for any pay table used in  
5 video poker.

6 In the preferred embodiment of the present invention, the  
7 player error can be accumulated over one or more rounds of  
8 play and all or a portion of the accumulated error amount may  
9 be returned to the player in a variety of ways. It is also  
10 possible to combine a plurality of video draw poker gaming  
11 machines, such as bank of gaming machines at a particular  
12 gaming location, or even a plurality of gaming machines at a  
13 plurality of gaming locations and accumulate the monetary  
14 value of the player error made at all of these gaming  
15 machines.

16 Since the errors made by the player are calculated and  
17 accrued as monetary amounts, any of a variety of ways can be  
18 used to return this error amount to the player. In each of  
19 the examples or variations described herein, either all or  
20 only a portion of the monetary value of the player error can  
21 be returned to the player. The operator of the gaming machine  
22 can decide what portion of the accumulated player error would  
23 be appropriate to return to the player should the operator  
24 decide not to return all of the error.

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1           The player could simply be paid the amount of his error  
2   at the conclusion of each hand.   The monetary value of the  
3   player's error for that hand could be displayed to the player  
4   (with or without a suitable DUMMY!! graphical representation)  
5   and the player could be paid the amount of his error.   Using  
6   the above example, the \$5 player would be paid \$3.04 at the  
7   end of his hand, regardless of the outcome of the hand.   Even  
8   if the player beat the odds and achieved the Royal Flush, the  
9   player would still be entitled to the return of his error  
10   since the player did not mathematically play the hand to its  
11   highest expected value.   Alternatively, a portion of the \$3.04  
12   could be returned to the player with the operator of the  
13   gaming machine simply keeping the rest of the player error.

14           Another more palatable way to return the error is to  
15   determine a threshold monetary value of accumulated error and,  
16   when the threshold monetary value is accrued, then pay the  
17   player the error.   Any suitable threshold value may be used.  
18   For example, say the threshold value is \$20.00.   Whenever, the  
19   accumulated monetary value of the player error reaches \$20.00,  
20   the payout mechanism on the gaming machine is actuated and  
21   \$20.00 is paid to the player.   This can be done by adding  
22   \$20.00 worth of credits to the credit meter on the gaming  
23   machine or by activating the payout hopper and dispensing  
24   \$20.00 worth of coins or tokens into the payout tray on the



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1 gaming machine. A suitable animation can be displayed on the  
2 video screen of the gaming machine to alert the player to what  
3 is occurring.

4 Alternatively, whenever the threshold value is reached,  
5 say \$20.00, then a portion, say \$17.00, is returned to the  
6 player.

7 In a variation of this direct pay back scheme, the  
8 threshold amount can be a range of values, instead of one  
9 fixed value. For example, the threshold amount could be a  
10 range from say \$15.00 to \$25.00. A random number generator  
11 could be used to randomly select a value within the threshold  
12 range and when the monetary value of the accumulated player  
13 error reaches the randomly selected value, the amount in whole  
14 or part is paid to the player, with the accompanying graphics  
15 display. Any suitable range of amounts can be used.

16 Another way of returning the monetary value of the  
17 accumulated error to the player is to use this error to fund  
18 one or more progressive jackpots. It is known to provide a  
19 progressive jackpot on a video poker gaming machine for  
20 certain poker hand rankings achieved by the player. For  
21 example, progressive jackpots have been provided for a Royal  
22 Flush, a Straight Flush, a Four-of-a-Kind and even a Full  
23 House and a Flush. Whenever the player achieves one of these  
24 hands, the player wins the amount of the progressive jackpot

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1 associated with the particular hand.

2 The monetary value in whole or in part of each player  
3 error could be added to the value of the progressive jackpot  
4 and thus the monetary value in whole or in part of the  
5 player's error would be returned to the player whenever the  
6 player achieved one of these winning hands.

7 If a plurality of gaming machines were linked together to  
8 one or more common progressive jackpots, each player could  
9 compete for not only the monetary value of his errors, but  
10 also the monetary value of all of the other player's errors.

11 Another method of returning the player error to the  
12 player is to give the player a free hand of play of the video  
13 poker game whenever enough player error has been accumulated  
14 to pay for such a free hand. For example, if the player were  
15 playing video poker for \$5 per hand (such as \$1 denomination  
16 video poker at five credits per hand), whenever the player  
17 error had accumulated in the amount of at least \$5, the  
18 electronic controls of the gaming machine could simply  
19 announce to the player that he had won a FREE HAND and deal  
20 out the five initial cards to the player without the player  
21 having to make a wager. The player would then play out the  
22 five initial cards according to the conventional manner of  
23 play of the video poker game and collect any award that the  
24 player achieved from that hand.

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1        Likewise, this option of awarding the player a free hand  
2 when the player error has accrued to certain amounts can also  
3 be applied when a player is playing multiple hand poker games  
4 such as TRIPLE PLAY draw poker. TRIPLE PLAY draw poker is  
5 described in U.S. Patent No. 5,823,873, the disclosure of  
6 which is incorporated herein. For example, if the player were  
7 playing TRIPLE PLAY poker and the accumulated player error had  
8 accrued to an amount sufficient to award the player a free  
9 hand, when the player next wagered to play three hands of  
10 poker in TRIPLE PLAY, the player would also be awarded a  
11 fourth hand for free.

12        In the multiple hand poker game formats (such as TRIPLE  
13 PLAY, or FIVE PLAY draw poker or TEN PLAY draw poker -- the  
14 method of play of both FIVE PLAY draw poker and TEN PLAY draw  
15 poker is described in U.S. Patent No. 6,098,985, the  
16 disclosure of which is incorporated herein), the player error  
17 could also be accrued until an amount at least large enough to  
18 award the player two or more free hands had been reached. For  
19 example, when a sufficient amount of player error had been  
20 accumulated, the player's next wager on a TRIPLE PLAY draw  
21 poker hand could be converted into a FIVE PLAY draw poker hand  
22 so that the player could play five hands for a three hand  
23 wager. Likewise, when a sufficient amount of player error had  
24 been accumulated, the player's next wager on a FIVE PLAY draw

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1 poker hand could be converted into a TEN PLAY draw poker hand  
2 so that the player could play ten hands for a five hand wager.  
3 These are just representatives of the many different ways that  
4 accumulated player error could be returned in whole or in part  
5 to a player as free hands; one could even accrue the player  
6 error until the amount was sufficient to convert a single hand  
7 of draw poker into a TRIPLE PLAY or higher hands of draw  
8 poker. Alternatively, the player could be provided with one  
9 or more additional hands at a reduced wager amount, such as a  
10 fourth hand of video poker could be provided to the player for  
11 only a three credit wager, but the hand would be treated as  
12 being played against a five coin pay table.

13 Another way to return accumulated player error to a  
14 player is to award a player a predetermined starting hand when  
15 the player error had accrued to a pre-established amount. For  
16 example, once the accumulated player error had reached a  
17 sufficient amount, the electronic controls of the gaming  
18 machine would simply deal a predetermined starting hand to the  
19 player, such as Four to a Royal Flush (such as the King,  
20 Queen, Jack and Ten of Spades). This is a good starting hand  
21 because the player has a one-in-forty-seven chance of  
22 completing this hand to a Royal Flush which is a high payout  
23 hand. The player also has a chance to achieve a Straight  
24 Flush, a Flush or a Straight. Thus, the player's chances of

1 achieving a winning hand when the initially dealt five cards  
2 are Four to a Royal Flush are much better than when the player  
3 is randomly dealt an initial five card hand.

4 Other predetermined starting hands can be used: Three to  
5 a Royal Flush, a sequential Four Card Straight Flush or any  
6 appropriate hand. Because the Expected Value of any  
7 predetermined starting hand can be calculated, the amount of  
8 player error suitable for awarding the player any particular  
9 predetermined staring hand can also be easily calculated.

10 A variation of providing the player a predetermined  
11 starting hand for free would be to provide the player a  
12 predetermined starting hand in conjunction with the player  
13 making a wager. When an appropriate amount of player error  
14 has been accrued, the player could be offered the opportunity  
15 to play a predetermined starting hand if the player made a  
16 certain wager. For example, after a certain level of player  
17 error has been accrued, the player would be offered the  
18 opportunity to play a Four to the Royal Flush starting hand if  
19 the player made a maximum coin wager. Because this offer  
20 would be made in conjunction with a player wager, the offer  
21 could be made at a lower level of accrued player error and  
22 thus could be made more often than could the offer be made  
23 when the predetermined starting hand is provided for free to  
24 the player.

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1        Likewise, an offer to play a predetermined starting hand  
2        could be made to the player for a partial wager (less than the  
3        maximum credits that can be played on a hand) after a suitable  
4        amount of player error has accrued. For example, an offer  
5        could be made to the player to wager three credits on a  
6        certain predetermined hand, but the player would then play  
7        that hand at the five credit value of the pay table.

8        Similarly, as the player error accumulates, the player  
9        could be offered a menu of predetermined hands to chose from.  
10       The player then chooses which predetermined starting hand the  
11       player wishes to play - either with or without a wager or with  
12       a partial wager. As the amount of player error accumulates,  
13       the menu could be expanded to include hands of increasing  
14       value.

15       Another variation would be to allow the player a choice  
16       between simply collecting the accumulated error available to  
17       be returned to the player or use the accumulated error for a  
18       free or partially free hand. This option of allowing the  
19       player to receive all or a portion of the accumulated player  
20       in cash or credits or to use all or a portion of the  
21       accumulated error could be applied to any of the variations  
22       discussed herein.

23       Still yet another way of using the accumulated player  
24       error would be to offer the player a higher return pay table

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1 when the accumulated error had reached a suitable amount. For  
2 example, when the player error accumulates to a pre-  
3 established amount, the player would be told that the next  
4 hand played by the player would be with reference to a  
5 different pay table. This second special pay table could have  
6 a higher overall game return than the regular first pay table  
7 - say 102% game return versus a 97% game return on the regular  
8 first pay table. Any suitable higher return pay table can be  
9 used depending on the amount of accumulated player error that  
10 has accrued and is to be returned to the player.

11 The method of the present invention would equalize the  
12 game return on a gaming machine for all players and would  
13 increase the enjoyment of video draw poker since a player's  
14 skill level would not necessarily affect the game return.  
15 Novice players would have more playing time on a video draw  
16 poker gaming machine and would not need to feel intimidated if  
17 they did not know the optimal draw/discard strategy for  
18 playing each starting hand that was dealt to them. In a  
19 multi-machine carousel of video poker games, a player could  
20 increase his potential for a winning session because he could  
21 benefit from the player errors made by the other players at  
22 the commonly-linked gaming machines.

23 While the invention has been illustrated with respect to  
24 several specific embodiments thereof, these embodiments should

1 be considered as illustrative rather than limiting. Various  
2 modifications and additions may be made and will be apparent  
3 to those skilled in the art. Accordingly, the invention  
4 should not be limited by the foregoing description, but rather  
5 should be defined only by the following claims.

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